

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2024-25 SCOPE OF WORK

Title

Grand Junction Fish and Wildlife Conservation Office Implementation of Recovery Activities

Bureau of Reclamation Agreement Number

R20PG00024; 2025 TBD

Reclamation Agreement Term

Oct. 1, 2019 – Sep. 30, 2024; 2025 TBD

Lead Agency

U.S. Fish and Wildlife

Grand Junction Fish and Wildlife Conservation Office

Principal Investigator

Dale Ryden, Project Leader

U.S. Fish and Wildlife Service

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Category:

- Ongoing projects
- Ongoing-revised project
- Requested new project
- Unsolicited proposal

Expected Funding Source:

- Annual funds
- Capital funds
- Other [explain]

Station Abstract

The Grand Junction Fish and Wildlife Conservation Office (GJ-FWCO) mission is to identify and implement methods to recover the Endangered Species Act listed Colorado pikeminnow (*Ptychocheilus lucius*; endangered), humpback chub (*Gila cypha*; threatened), bonytail (*Gila elegans*; endangered), and razorback sucker (*Xyrauchen texanus*; endangered). Species will be considered recovered when populations are self-sustaining in the wild, threats are reduced, and adult numbers are sufficient to maintain long-term genetic diversity. Ultimately, the goal is for these fish to no longer need the protection of the Endangered Species Act. The GJ-FWCO will implement many recovery activities to support listed fishes, including monitoring listed fish populations, removing nonnative species, managing fish passage facilities, managing wetlands, and conducting outreach. Permanent staff will

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participate in all covered recovery activities as well as non-project specific tasks such as managing seasonal employees, administering budgets, completing trainings, and aiding other offices as needs arise.

For fiscal year (FY) 2024 the Upper Colorado River Endangered Fish Recovery Program (UCREFRP) is only able to fund 75.6% (\$800,000; \$24,000 Overhead, \$776,000 to GJ FWCO) of the \$1,057,874.14 required to cover Grand Junction FWCO activities A, B, D, E, F, G, and I. The remaining 24.4% will be covered by Grand Junction FWCO, using carry over funds and/or funding received by our office from other sources. However, this approach will deplete most of our field station's carry over funds by the end of FY 2024, making them unavailable for use in FY 2025.

Activities to be Implemented

The Grand Junction FWCO will assist with or directly implement the following activities which are outlined in the Recovery Program 2023 RIPRAP and 2024-25 workplan.

- A. Plan, manage, and implement projects through permanent staff and fixed costs;
- B. Coordinate, plan and implement outreach activities;
- C. Monitor adult Colorado pikeminnow abundance in the Colorado River subbasin;
- D. Manage and assess passages in the Grand Valley, including operation of selective passages at Grand Valley Project and Redlands passages;
- E. Conduct activities to reduce the impacts of diversions on fish;
- F. Mechanically remove smallmouth bass in the Colorado River subbasin;
- G. Mechanically remove walleye in the Colorado River subbasin;
- H. Estimate humpback chub abundance in Black Rocks in the Colorado River;
- I. Monitor fish community in the Gunnison River.

Staffing

The GJ-FWCO operates with a staff of seven permanent employees to effectively oversee, plan, perform, and report the activities listed above.

In addition, the GJ-FWCO requires another 12-15 seasonal staff each year to perform field work for the Recovery Program. Typically, seasonal staff are needed at various levels from March to the end of November.

Permanent Staff

The following permanent staff will oversee, plan, perform, and report on the projects described above.

FWCO Project Leader – Oversees operations of the Ouray National Fish Hatchery Grand Valley Unit & Grand Junction FWCO. Recovery Program Biology Committee Member for the USFWS. This

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position is 90% funded by the Recovery Program. The San Juan River Basin Recovery Implementation Program funds 10% of this position.

Administration Officer – Oversees budget, purchasing, and administration of the Ouray National Fish Hatchery Grand Valley Unit & Grand Junction FWCO. This position is 95% funded by the Recovery Program. The San Juan River Basin Recovery Implementation Program funds 5% of this position.

Deputy Project Leader – Supervises and hires seasonal and permanent Biological Technician workforce for implementation of Recovery Program projects. Recovery Program alternate Biology Committee Member for the USFWS. Principal Investigator for Grand Valley Project and Redland's Fish Passages, nonnative fish removal in the Colorado and lower Gunnison rivers, and humpback chub demographic monitoring in Black Rocks. Responsible for submission of the following annual reports: Grand Valley Project and Redland's Fish Passages, nonnative fish removal in the Colorado and lower Gunnison rivers, and humpback chub demographic monitoring in Black Rocks. Responsible for a technical report on humpback chub demographic monitoring in Black Rocks. Station Purchasing Officer. Program PIT tag supply distributor. This position is 100% funded by the Recovery Program.

Fish Biologist – Principal Investigator for demographic monitoring of Colorado pikeminnow in the Colorado and lower Gunnison rivers and Gunnison River fish community monitoring. Responsible for submission of annual reports and technical reports for all the above. Station Safety Officer. This position is 100% funded by the Recovery Program.

Fish Biologist – Principal Investigator for monitoring water temperature throughout the Gunnison and Colorado rivers. Responsible for leading crews for all station projects. Station Property Officer. This position is 60% funded by the Recovery Program. The San Juan River Basin Recovery Implementation Program funds 40% of this position.

Permanent Bio Tech – Fleet and equipment manager responsible for boat, truck, and equipment maintenance. Principal Investigator for assisting Colorado Parks and Wildlife with native fish salvage from Grand Valley irrigation canals. Also assists with field work for implementation of Recovery Program projects. Station Purchasing Officer. This position is 100% funded by the Recovery Program.

Permanent Bio Tech – Primary station outreach coordinator. Assists with station's data management. Assists with field work for implementation of Recovery Program projects. This position is 100% funded by the Recovery Program.

Seasonal Staff

The following seasonal staff will perform the activities described above, including operating watercraft, handling fish, and collecting data.

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Biological Technicians – Primary duty is to handle fish for speciation and enumeration and collect associated data. Twelve to fifteen biological technicians are needed annually.

Staff Hours

	Estimated Yearly Hours 2024	Estimated Yearly Hours 2025
Total Hours for Permanent Staff	13027	13693
Administrative Officer (95% Upper Basin, 5% San Juan; for 2024 only 11.5% SJ and 88.5% UB)	1847	1983
Project Leader (90% Upper Basin, 10% San Juan; for 2024 only 16.9% SJ and 83.1% UB)	1735	1879
Deputy Project Leader	2087	2087
Fish Biologist (60% Upper Basin, 40% San Juan; for 2024 only 56% SJ 44% UB)	907	1253
Fish Biologist	2087	2087
Crew Leader, Biological Science Technician (Fish)	2087	2087
Biological Science Technician, Outreach Coordinator	2087	2087
Crew Leader, Biological Science Technician (Fish) OT	190	230
Total Hours for Seasonal Staff	6170	10890
Crew Leader, Biological Science Technician (Fish)	1508	2008
Biological Science Technician (Fish)	3892	7512
Crew Leader, Biological Science Technician (Fish) OT	190	230
Biological Science Technician (Fish) OT	580	1140
Grand Total	19197	24583

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ACTIVITY A – Permanent staff and fixed costs associated with implementation of all station activities. (Previously imbedded in Project scopes C-4b Red, C-4b GVP, C-29a, 126a, 127, 131, 163)

Goal

To ensure timely and effective planning, implementation, coordination, and administrative support of Recovery Program activities and adaptive management processes.

Tasks

1. Coordinate, plan, and implement recovery activities;
2. Collect, process, and submit data;
3. Analyze, evaluate, and report on recovery activities;
4. Manage budget;
5. Maintain and replace station equipment and fleet; and
6. Attend and provide expertise at Program meetings;
7. Apply for collection and importation permits.

Task Descriptions, Deliverables and Schedule:

Task 1. Coordinate, plan, and implement recovery activities.

Permanent staff are responsible for all field activity planning and preparation, including scope of work development and modification, acquiring permits from both federal and state agencies, and acquiring landowner access for specific locations. Adequate planning and preparation ensure that work can be safely accomplished in a manner that protects both staff and equipment throughout the field season.

This task includes hiring and training permanent and seasonal staff that are properly equipped to safely engage in activities in remote areas in potentially adverse conditions.

Task 2. Collect, process, and submit data

Collecting and reporting accurate data is one of the primary products of any field sampling event. Data should be collected and stored in a manner that allows for minimal error inclusion and is managed in accordance with the standard procedures outlined in the appropriate data management plan. The Program recommends using digital data collection tools with customized applications for Program work. Data will be submitted to the Data Manager as soon as possible at the end of each trip or in conjunction with deadlines noted under each Activity below. Staff will work with the Data Manager to resolve any errors before the data is submitted into STReAMS for analysis and reporting.

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Task 3. Analyze, evaluate, and report on recovery activities

Each activity requires reporting to document completion of tasks, biological effects and conditions, and recommendations for adjustments in future years. All specific reports due are outlined in the specific activity sections below.

Task 4. Manage budget

The GJ-FWCO budget is managed to ensure all projects funded by scopes of work are completed with the funding provided. This includes purchasing all necessary materials and equipment in conjunction with the organization's guidance and policy. Task includes developing and administering Interagency Agreements, Cooperative Agreements, and contracts necessary to implement activities for the Recovery Program.

Task 5. Maintain and replace station equipment and fleet

The GJ-FWCO utilizes ten rafts, seven raft trailers, twelve jon boats and trailers, ten Honda generators, ten electrofishing units, six 15hp Mercury outboard motors, three 30hp Johnson outboard motors, two 20hp Mercury jet outboard motors, two 60hp Evinrude jet outboard motors, three 80hp Mercury jet outboard motors, two 150hp Mercury jet outboard motors, one 225hp Mercury jet outboard motor, one 250hp Mercury outboard motor, three Dell Latitude 5420 rugged field computers, seventeen submersible PIT antenna, one hotsy for decontamination, and a fleet of ten trucks to implement all station activities. This task describes the replacement schedule and cost of equipment used for all field activities, as well as the fixed monthly fees associated with our fleet of four trucks. Mileage fees for station fleet are accounted for in the individual activities in which they are accrued.

- Replace (10) generators, and (10) electrofishing units on a 5-year rotation
- Replace rafts, boat trailers, frames, and hard bottom boats as needed
- Replace outboard boat motors on a (5-year) schedule
- Replace field computers as needed
- Replace Hotsy (hot-water, decontamination, pressure sprayer) as needed
- Replace submersible PIT antennas as needed
- Fixed monthly fees for (10) station trucks

Task 6. Attend and provide expertise at Program meetings

The Recovery Program relies on the expertise of field crews to share pertinent information and offer guidance outside of written reports. This includes providing expertise at the Recovery Program's technical and Management [committees](#) as requested or appropriate. Station staff also should attend and participate in adaptive management meetings and workshops (e.g. planning workshops, NNF workgroup, STReAMS or data meetings) to acquire needed training and to share knowledge.

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The Recovery Program also relies on partners and stakeholders to review and recommend updates to the RIPRAP and other Program documents as appropriate. Scientific expertise of field crews also provide peer review to ensure technical and scientific integrity of Recovery Program activities (study proposals, project reports, etc.) as requested.

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Activity A Budget

Expense Category	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Permanent Staff	\$663,088.99	\$19,892.67	\$714,925.20	\$21,447.76
Seasonal Staff				
Materials	\$46,872.00	\$1,406.16	\$47,809.44	\$1,434.28
Equipment			\$46,067.34	\$1,382.02
Travel	\$13,505.00	\$405.15	\$13,775.10	\$413.25
Contracts				
Activity A Total	\$723,465.99	\$21,703.98	\$822,577.08	\$24,677.31

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

Generalized Work Schedule

A typical field season for the GJ-FWCO begins with field work in April, although some hydrologic conditions may warrant work being performed in late March. Early season work, before spring runoff, includes monitoring adult Colorado pikeminnow (3 out of every 5 years), electrofishing and removing walleye and other nonnative fish from the reach between Lower Westwater Canyon and Potash, and opening and running the GVP and Redland’s Fish Ladders. During spring runoff, monitoring adult Colorado pikeminnow (3 out of 5 years), community wide larval sampling in the Gunnison and Colorado rivers, and operating GVP and Redland’s Fish Ladders. Beginning with the descending limb of the hydrograph, work shifts primarily to smallmouth bass and walleye removal in the Gunnison and Colorado rivers, community wide larval sampling in the Gunnison and Colorado rivers, and operating GVP and Redland’s Fish Ladders. This work typically lasts through the summer months into autumn. During late summer and autumn fish community monitoring for adult, juvenile and young-of-year fish commences on the Gunnison and Colorado rivers, and demographic monitoring of humpback chub in Black Rocks (2 out of every 4 years). In the spring and fall crews will collect data from and deploy hobo tidbits monitoring water temperatures from multiple locations in the Gunnison and Colorado rivers. In mid-October the fish ladder facilities are shut down and winterized. Once the canals are dewatered from the irrigation season, crews will assist Colorado Parks and Wildlife with native fish salvage from Grand Valley Canals. Field season typically ends the third week of November.

Upon completion of field work, principal investigators will ensure data is submitted to the STReAMS database for QA/QC and data sharing with other Recovery Program partners. Principal Investigators will then retrieve data from STReAMS and will complete annual reports of their responsibility, generally presenting this data at the Recovery Program Researcher’s Meeting each winter. During the winter, permanent Biological Technicians will ensure equipment and gear is maintained, repaired, and replaced for the next field season. Also, over the winter, permanent staff will complete the hiring process for seasonal staff, rectify budgets, and coordinate with any partners.

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Table X. Generalized GJ-FWCO schedule for implementation of all Activities.

Target species	Activity	Legacy Project(s)	Locations	Staff Permanent Seasonal	J	F	M	A	M	J	J	A	S	O	N	D
All	B – Outreach	NA	All	7 permanent 12 seasonal				X	X	X	X	X	X	X	X	
CPM, RZ	C – CPM Estimates	127	CO and lower GU	3 permanent 7 seasonal			X	X	X	X						
All	D – Fish Passage	C-4b Red & GVP	GU and CO R	2 permanent 2 seasonal				X	X	X	X	X	X	X		
All	E– Canal Salvage	C-29a	CO R	2 permanent 2 seasonal											X	
SM	F – Mechanical removal	126a	CO and lower GU	3 permanent 8 seasonal						X	X	X	X	X		
WE	G – Mechanical removal	126a	CO R	3 permanent 8 seasonal				X	X			X	X	X	X	
HB	H – HB Estimates	131	CO R	3 permanent 6 seasonal							X	X	X	X	X	
All	I – Fish Community monitoring	163	GU and CO R	3 permanent 6 seasonal						X	X	X	X	X		

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ACTIVITY B - Coordinate, plan, and implement outreach activities.

Study Principal Investigator

Shannon Nelson, Outreach Coordinator
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Activity Principal Investigator

Michael Gross, Biological Science Technician/Outreach Coordinator
U.S. Fish and Wildlife Service
Grand Junction Fish and Wildlife Conservation Office
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Study Goals

Providing information and engaging with people about the Recovery Program and the four listed fish species are an essential part of building and maintaining public support to help achieve program recovery goals.

Study Area

The areas routinely sampled by this office, in addition to Grand Junction and the surrounding municipalities in the Colorado River subbasin.

Task Descriptions

Task 1. Interact with members of the public

These efforts often occur organically with anglers, boaters, and other groups while conducting sampling and consist of providing information about the Recovery Program, as well as sharing a variety of materials that can make a lasting positive impression, such as fish-themed stickers and tattoos. This outreach is especially valuable because it provides direct experiences for people who may be curious or deeply interested in river ecology and efforts to recover threatened and endangered fishes.

Task 2. Provide photos and videos to the Program Director's Office (PDO)

The GJ-FWCO will take photos and videos of interesting field activities to assist the PDO in sharing accomplishments in formal publications and digital media. In addition, photos needed for scientific verification will be acquired. Guidance for submission will be distributed prior to the field season.

Task 3. Razorback in the classroom

The GJ-FWCO supports various (varies annually) classrooms at Colorado School District 51 with age-0 razorback sucker and educational materials. The fish are released into the wild at the end of the school year.

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Task 4. Participate in community events, festivals, conferences, or guest speaker forums

The GJ-FWCO will provide information and education about the Recovery Program and threatened and listed fish recovery efforts at public events, as coordinated with the Outreach Coordinator.

Task 5. Document staff outreach efforts

Each fall, the GJ-FWCO will provide a general accounting of Outreach to the PDO to be included in an Outreach annual report to be prepared by the Outreach Coordinator. This documentation will help the Recovery Program identify and assess gaps, needs and opportunities to guide future work planning to accomplish recovery goals.

Task 6. Palisade Highschool razorback sucker hatchery

The GJ-FWCO will support the Palisade Highschool Hatchery with technical expertise, presentations, and community outreach. The fish are released into the wild at the end of the school year.

Task 7. Facility Tours

The GJ-FWCO will conduct tours at restored wetland sites, the Grand Valley Project Fish Passage, Redland's Fish Passage, and Price Stubb Passage. The office will also assist with tours at the Grand Valley Irrigation Company's Fish Passage and Screens, the Grand Valley Project's Fish Screens, Redlands Water and Power's Fish Screens, and the Orchard Mesa Irrigation Lift Station.

Deliverables

Provide a summary to the PDO Outreach Coordinator documenting community events, festivals, conferences, school visits, guest speaker forums and other outreach activities conducted by field office staff including:

- A list of outreach activities, type (e.g. school visit, community event), date, and the estimated number of people contacted during each occasion, including informal encounters* with anglers, boaters, and other groups

*Please note that for informal outreach encounters the goal is to identify trends to guide future outreach efforts and it is not necessary to document every interaction. Instead, it would be helpful to learn the approximate number of boats and/or people encountered, significant locations/river reaches where interactions occurred, and if they were positive, negative, or otherwise remarkable in terms of recommending future outreach actions.

- A brief narrative about current field office outreach efforts including general observations, successes, and challenges to help inform recommendations
- A list of recommendations to guide future outreach efforts based on an assessment of current gaps, needs, and opportunities to further program recovery goals, such as:
 - Creating educational materials to address site-specific needs
 - Participating in additional conferences or events

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- Developing K-12 classroom curricula
 - Removing barriers that hinder broader public involvement (e.g. developing bilingual materials or providing increased access to events)
- Increasing field office staff capacity to conduct outreach activities

Activity B Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff	\$34,927.92	\$1,047.84	\$35,626.47	\$1,068.79
Seas Staff			\$6,742.65	\$202.28
Materials	\$214.60	\$6.44	\$218.89	\$6.57
Equipment				
Travel				
Contracts				
B Total	\$35,142.52	\$1,054.28	\$42,588.02	\$1,277.64

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

ACTIVITY C - Colorado pikeminnow abundance estimation in the Colorado and Gunnison rivers (Project 127)

Activity Principal Investigator

Darek Elverud, Fish Biologist
 U.S. Fish and Wildlife Service
 Grand Junction Fish and Wildlife Conservation Office
 Email: darek_elverud@fws.gov

Study Goals

The goal is to provide three annual whole-river estimates of population abundance for Colorado pikeminnow ≥ 250 mm TL and for Colorado pikeminnow ≥ 450 mm TL in the Colorado River mainstem, with coefficients of variation of 20% or less.

Study Area

The Colorado River will be sampled from Government Highline Dam (RM 194.4) downstream to the confluence with the Green River (RM 0.0), excluding Westwater Canyon (12 miles: RM 112-124). In addition, the lower 2.3 miles of the Gunnison River downstream of Redlands Diversion Dam will also be sampled, as fish utilizing this reach are part of the Colorado River population. A total of 179 miles will be sampled. The rationale for omitting Westwater Canyon is that sampling there requires specialized whitewater expertise and based on past experience, will yield very few pikeminnow captures (captures have averaged about one per year over nine years despite intensive sampling associated with other studies [unpublished Recovery Program database data]).

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Task Descriptions

Task 1. Complete five sampling passes on the upper reach (above Westwater Canyon) on the Colorado River.

Passes will occur beginning in late-March when temperatures and flows are appropriate. Sampling passes will usually be completed by the end of June and prior to Colorado pikeminnow spawning activity. Each of the five upper reach passes requires a minimum of nine sampling days, three boats (two sampling boats and one gear boat for overnight trips), and four people to complete sampling (five people are required for overnight trips). Three additional personnel are required to shuttle vehicles for day trip sampling reaches.

Task 2. Complete four sampling passes on the lower reach (below Westwater Canyon) on the Colorado River.

Passes will occur beginning in late-March when temperatures and flows are appropriate. Sampling passes will usually be completed by the end of June and prior to Colorado pikeminnow spawning activity. In low water years, only three sampling passes may be completed due to time constraints resulting from low river flows and early onset of Colorado pikeminnow spawning. Each of the four lower reach passes requires a minimum of twelve sampling days, three boats (two sampling boats and one gear boat for overnight trips), and five people to complete sampling.

Deliverables

Due to UCREFRP budget restrictions sampling will not occur in FY 2024. Data will be checked for accuracy and uploaded into the STReaMs database by the end of November of each year (2025, 2026, and 2027). An annual report of summarized data and sampling efforts will be submitted to the program coordinator by mid-November for each year. A draft summary report of data collected from 1992 until present will be submitted to the program coordinator by July 15th, 2028. A final summary report will be submitted to the Biology Committee by October 15th, 2028.

Activity C Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff			\$1,936.12	\$58.08
Seas Staff			\$131,788.48	\$3,953.65
Materials			\$19,819.00	\$594.57
Equipment				
Travel			\$21,653.63	\$649.61
Contracts				
C Total			\$175,197.23	\$5,255.92

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

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ACTIVITY D – Manage and assess passages in the Grand Valley, including operation of selective passages at Grand Valley Project and Redlands Passages (Project C-4b Red and GVP)

Activity Principal Investigator

Travis Francis, Deputy Project Leader
U.S. Fish and Wildlife Service
Grand Junction Fish and Wildlife Conservation Office
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Study Goals

Continue to collect data on the number of large-bodied fish, different fish species, and seasonal distribution of fish that use the Redlands and Grand Valley Project (GVP) fish passageways. Summarize the annual results of passageway fish use in the annual report.

The fish trap at Redlands fish passageway has been opened by mid-April and closed in mid-October. The fish trap at GVP passageway may be opened by mid-April and closed in mid-October dependent upon water availability. Due to program guidance and reduced budgets, the two passageways will open mid-April and will be closed a month early in mid-September for FY 2022-2025. The traps are designed to collect large-bodied fish. Depending upon manpower, the fish traps at the passageways will be run at least every other day, Monday through Friday, and where possible every weekday. All fish will be sorted by species and counted. Vital statistics including length, weight, and PIT-tag IDs will be collected for all listed species found in the trap. All Colorado pikeminnow collected at Redlands Passage will be translocated upstream to either Escalante or Delta along with other listed fish collected the same day. Other introduced species (e. g., largemouth bass, smallmouth bass, green sunfish, black bullhead, gizzard shad, white sucker, and carp) collected will be sacrificed and disposed of in a manner that will not constitute a nuisance or as otherwise directed by Colorado Parks and Wildlife (CPW). Channel catfish will be returned downstream of the fish ladder alive.

In addition to collecting and counting fish in the fish traps, FWS personnel will continue to be responsible for periodic cleaning of river borne sediment in the fish traps and routine cleaning of surface and submerged trash, debris, and river borne algae from the trash grates and bar screens in the fore bay of the passageways. Other tasks include regulating river flows through the fish ladders and attraction flows to remove sediment from the fish-way, noxious weed control, and removing all stranded fish in the fish traps and dewatered portion of the fish ladders prior to winterizing. FWS personnel will also be responsible for opening and winterizing the passageways.

FWS personnel are also responsible for maintaining the Price Stubb PIT tag antenna, solar panel, batteries, data logger, cell phone modem, and MUX at the top end of the Price-Stubb Dam Fish Passageway. This includes one day of providing personnel, coordinated with the Bureau of Reclamation and their hired contractor that operates a track hoe, to assist with removing high water debris from the passageway. A report of annual PIT tag detections will be included with this annual report (previously provided in the annual database management report).

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Study Area

GVP Passage - Colorado River: river mile 193.7.

Redlands Passage - Gunnison River: river mile 3.0.

Price Stubb Passage – Colorado River: river mile 188.3

Task Descriptions

Task 1. Routine Operation and Maintenance of Redlands and GVP Fish Passages

Daily operations include monitoring the fish traps, sorting, examining, and enumerating all fish in addition to removing and disposing of all non-native fish, removing sediment from the trap and cleaning trash and debris from the trash racks, bar screens, fish traps, and fish-way entrances. Other tasks include regulating river flows through the fish ladder and attraction flow to remove sediment from the fish-way, noxious weed control, removing all stranded fish in the fish trap and dewatered portion of the fish ladder prior to winterizing.

Daily activities require at least three staff members to complete.

4/2024 – 09/2024; 4/2025 – 09/2025

Task 2. Routine Operation and Maintenance of Price Stubb Fish Ladder and PIT tag Antenna

Monthly visual inspections and cleaning of the MUX and associated antenna equipment, and passageway. Weekly diagnostic checks and data downloads from BIOLogic. One day of providing personnel, coordinated with the Bureau of Reclamation and their hired contractor that operates a track hoe, to assist with removing high water debris from the passageway.

10/2024 – 09/2024; 10/2025 – 09/2025

Deliverables

Compile and summarize fish use data; prepare annual RIP report.

All data will be uploaded into STReAMS by the end of November in 2024 and 2025.

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Activity D Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff				
Seas Staff	\$65,683.54	\$1,970.51	\$66,997.21	\$2,009.92
Materials	\$6,897.00	\$206.91	\$7,034.93	\$211.05
Equipment				
Travel				
Contracts				
D Total	\$72,580.54	\$2,177.42	\$74,032.14	\$2,220.96

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

ACTIVITY E – Conduct activities to reduce the impacts of diversions on listed fish species (Project C-29a)

Study Principal Investigator

Tyler Swarr, Native Aquatic Species Biologist
Colorado Parks and Wildlife, NW Region
Email: tyler.swarr@state.co.us

Activity Principal Investigator

Travis Francis, Deputy Project Leader
U.S. Fish and Wildlife Service
Grand Junction Fish and Wildlife Conservation Office
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Study Goals

The study goal for the project is to reduce the number of native fishes stranded in the Grand Valley Irrigation Company (GVIC) and/or Grand Valley Water User's (GVWU) canals. The study objective for the project includes collecting native fish entrained in the GVIC and/or GVWU canals, completing measurements and tagging (as needed) on individual fish, and translocating and stocking native fishes in the Colorado and/or Gunnison rivers.

Study Area

The study area includes sections of the GVIC and/or GVWU canals that divert water from the Colorado River near Palisade, Colorado downstream to near Fruita, Colorado.

Task Descriptions

Task 1. Prepare for annual salvage

Obtain permission to access canal property (CPW) and prepare sampling equipment (CPW and USFWS-GJFWCO).

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Last updated: 4/19/2023 1:40 PM

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Schedule: October - November

Task 2. Complete native fish collection from sections of the GVIC and/or GVWU canals

Sections of the GVIC and/or GVWU canals that hold water after irrigation diversion flows are terminated each fall will be sampled collaboratively by CPW and the USFWS-GJFWCO using barge mounted or truck-mounted electrofishing systems and/or seines. Native fish may also be salvaged from some major canals lateral to the GVWU canal (e.g., Palisade Irrigation, Orchard Mesa Irrigation District) if/when the opportunity presents itself and with the proper permissions for access to these facilities.

Depending upon the type of water year preceding salvage efforts, different approaches may be used to decide which sections of canal to salvage. During years with high spring peak flow and years with extended high runoff, longer sections of the canals may be salvaged. These sections could start near Fruita, Colorado around 22 or 24 roads and continue eastwards to the most upstream ends of the Grand Valley. In years with lower runoff peak and/or duration, salvage efforts will be concentrated in the most upstream (i.e., eastern) sections of the Grand Valley, focusing on previously identified 'hot spots' where native and listed fishes tend to congregate in these types of water years. Most hot spots occur east of 30 Road in Grand Junction, Colorado.

Fish collection will begin approximately one week after the canals have been shut off in the fall, allowing them to drain down to a water level that is accessible by the sampling crew. The fish collection crew will travel the canal roads searching for large pools and/or sections of water that could still hold fish. When optimal pools of water are found, crews will walk the canal using electrofishing probes and/or seines to capture all fish possible. Native fish will be enumerated by species. As part of CPW's Three Species (roundtail chub, flannelmouth sucker, and bluehead sucker) sampling efforts, large numbers of native fishes may also be weighed, measured and tagged with passive integrated transponder (PIT) tags, prior to being placed in a hatchery truck to be transported to and stocked in the Colorado and/or Gunnison rivers. Any listed fish collected during this process will be measured, weighed, and checked for the presence of a PIT tag. If no PIT tag is present, one will be implanted prior to releasing the fish alive back into the Colorado and/or Gunnison rivers.

Colorado Parks and Wildlife will complete a minimum of five days of native fish collection in the field, the USFWS-GJFWCO will provide a stocking truck for field collections, will complete up to eight or nine days of fish collection at the direction of Colorado Parks and Wildlife.

Schedule: November

Deliverables

Colorado Parks and Wildlife to prepare and submit data to the USFWS-GJFWCO and STReAMS database. U.S. Fish and Wildlife Service Grand Junction Fish and Wildlife Conservation Office to compile, summarize, and prepare Annual Report for submission to the Recovery Program, generally by the middle of December.

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Activity E Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff				
Seas Staff	\$7,470.73	\$224.12	\$7,620.14	\$228.60
Materials	\$2,978.72	\$89.36	\$3,038.30	\$91.15
Equipment				
Travel				
Contracts				
E Total	\$10,449.45	\$313.48	\$10,658.44	\$319.75

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

ACTIVITY F – Mechanically remove smallmouth bass and other nonnative species in the Colorado and Gunnison rivers (Project 126a)

Activity Principal Investigator

Travis Francis, Deputy Project Leader
 U.S. Fish and Wildlife Service
 Grand Junction Fish and Wildlife Conservation Office
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Study Goals

This project focuses on in-river mechanical removal, and off-channel control of centrarchids (e.g., largemouth bass, green sunfish, bluegill, black crappie, and smallmouth bass), esocids (northern pike), percids (walleye and yellow perch), clupeids (gizzard shad), morones (striped bass) and non-native catostomids (white sucker). As part of the project, we will include spawning disruption and off-channel escapement prevention via boat and raft-based electrofishing. In addition, we will remove individuals outside of the spawning period to reduce the population abundance. We will measure response to these efforts via catch-per-unit-effort (CPUE).

Within the Grand Valley, between Grand Valley Project Dam and Loma, CO, there are many off channel gravel pit ponds which connect with the river at various stages during run-off. These off-channel habitats are important pre-spawn staging areas for adult native fishes and they are important nursery areas for young-of year native fishes. However, these gravel pit ponds have become sources for many of the non-native centrarchids, northern pike, white sucker and gizzard shad found in the main-stem river. Little effort had been expended at these locations since the inception of this project. As a recommendation in our 2014 annual report and with the approval of the UCRRP and Biology Committee, mechanical removal may be expended in these gravel pit ponds (where we have access). Electrofishing, trap netting, gill netting, trammel netting, seining, and cast netting will be utilized at these locations.

All species captured within each of the sub-reaches will be enumerated in 2024–2025 like that during former years (2004–2023). Total numbers of smallmouth bass, largemouth bass and walleye collected, and CPUE (fish/hr) will be also determined for each sub-reach per sampling FY 2024-25 GJ FWCO Scope of Work

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pass. Length data will be recorded for 2024–2025 like that during former years (2004–2023) to determine the size structure of species removed. Data analyses like that used between 2004 and 2023 will be used to analyze the 2024–2025 field data.

Study Area

Upper Colorado and Gunnison rivers:

GVP Dam downstream to Loma boat landing (river mile {RM} 193.7 – 152.6) & the Lower Gunnison River (RM 3.0 – 0.0)

Loma Boat Launch to Westwater Wash (RM 152.6 – 124.8)

Task Descriptions

Task 1. Complete at least 6.5 removal passes in the 35.8 river mile Grand Valley Reaches

To date, sampling efforts have focused on a reach and not river-wide scale. Two electrofishing craft (per Upper Colorado River Recovery Program SOP) worked both shorelines of a reach to complete a pass.

Passes will occur from June to October when temperatures and flows are appropriate. Each pass requires 7 days, 2 boats, and 7 people (4 on boats, 3 running shuttles).

Task 2. Complete at least 2 removal passes in the 27.8 river mile Loma to Westwater Wash Reaches

To date, sampling efforts have focused on a reach and not river-wide scale. Two electrofishing craft (per Upper Colorado River Recovery Program SOP) worked both shorelines of a reach to complete a pass.

Passes will occur from June to August when temperatures and flows are appropriate. Each pass requires 3 days, 3 boats, and 8 people (5 on boats, 3 running shuttles).

Deliverables

Compile and summarize data; prepare annual RIP report.

All data will be uploaded into STReAMS by the end of November in 2024 and 2025.

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Activity F Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff	\$4,745.38	\$142.36	\$4,840.29	\$145.21
Seas Staff	\$62,843.24	\$1,885.30	\$64,100.11	\$1,923.00
Materials	\$17,173.62	\$515.21	\$17,517.09	\$525.51
Equipment				
Travel	\$710.70	\$21.32	\$724.91	\$21.75
Contracts				
F Total	\$85,472.95	\$2,564.19	\$87,182.40	\$2,615.47

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

ACTIVITY G – Mechanically remove walleye in the Colorado River subbasin;

Activity Principal Investigator

Travis Francis, Deputy Project Leader

U.S. Fish and Wildlife Service

Grand Junction Fish and Wildlife Conservation Office

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Study Goals

This project focuses on in-river mechanical removal, and off-channel control of centrarchids (e. g., largemouth bass, green sunfish, bluegill, black crappie, and smallmouth bass), esocids (northern pike), percids (walleye and yellow perch), clupeids (gizzard shad), morones (striped bass) and non-native catostomids (white sucker). As part of the project, we will include spawning disruption and off-channel escapement prevention via boat and raft-based electrofishing. In addition, we will remove individuals outside of the spawning period to reduce the population abundance. We will measure response to these efforts via catch-per-unit-effort (CPUE).

All species captured within each of the sub-reaches will be enumerated in 2024–2025 like that during former years (2004–2023). Total numbers of smallmouth bass, largemouth bass and walleye collected, and CPUE (fish/hr) will be also determined for each sub-reach per sampling pass. Length data will be recorded for 2024–2025 like that during former years (2004–2023) to determine the size structure of species removed. Data analyses like that used between 2004 and 2023 will be used to analyze the 2024–2025 field data.

Study Area

Lower Westwater Canyon to Potash, UT (RM 114.0 – 47.2)

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Task Descriptions

Task 1. Complete least 4 removal passes from Lower Westwater Canyon to Potash, UT.

To date, sampling efforts have focused on a reach and not river-wide scale. Two electrofishing craft (per Upper Colorado River Recovery Program SOP) worked both shorelines of a reach to complete a pass.

During years that project 127 is not occurring 2 passes will occur from March through May and 2 passes will occur from late August through November when temperatures and flows are appropriate. During years that project 127 is occurring 4 passes will occur from late August through November when temperatures and flows are appropriate.

Each pass requires 7 days, 3 boats, and 8 people (5 on boats, 3 running shuttles).

Deliverables

Compile and summarize data; prepare annual RIP report.

All data will be uploaded into STReAMS by the end of November in 2024 and 2025.

Activity G Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff	\$3,796.31	\$113.89	\$3,872.23	\$116.17
Seas Staff	\$39,305.71	\$1,179.17	\$40,091.83	\$1,202.75
Materials	\$6,328.00	\$189.84	\$6,454.56	\$193.64
Equipment				
Travel	\$15,302.52	\$459.08	\$15,608.57	\$468.26
Contracts				
G Total	\$64,732.54	\$1,941.98	\$66,027.19	\$1,980.82

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

ACTIVITY H – Humpback chub abundance estimation in Black Rocks in the Colorado River (Project 131)

Activity Principal Investigator

Travis Francis, Deputy Project Leader

U.S. Fish and Wildlife Service

Grand Junction Fish and Wildlife Conservation Office

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Study Goals

1. Estimate size and recruitment of the humpback chub population in Black Rocks. Use mark-recapture to estimate the population size (including adults > 200 mm TL) and recruitment (i.e.,

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juveniles 150-199 mm TL) of humpback chub in Black Rocks. Describe population structure of humpback chub in Black Rocks by analyzing length-frequency distributions. Monitor and describe relative condition of the chub populations.

2. Evaluate young-of-year (YOY) Gila year-class strength. Determine and describe YOY Gila hatch dates and year-class strength (densities) if the numbers of fish collected warrant such analysis.

Study Area

Adults and Juveniles: Colorado River – Black Rocks area (RM 135-137).

Young-of-year and Juveniles: Colorado River – Mee Canyon to Westwater Wash (RM 138.8-124.8)

Task Descriptions

Task 1. Complete at least 4 passes of mark recapture work in Black Rocks

Extensive sampling will also be done with electrofishing, seining, baited hoop nets and submersible PIT tag antenna. Conduct four intensive 4-day (3 nights) sampling efforts in Black Rocks between mid-September and late October in FY-2026 and FY-2027, and again in FY-2027 and FY-2028, with intervals of 1-2 weeks between samples. Capture as many adult-sized chubs as possible using the most efficient gear for handling as many fish as possible for the effort expended. Sampling will encompass the entire length of Black Rocks occupied by humpback chub to ensure that all fish have an equal chance of being captured.

Each pass requires 4 days, 3 boats, and 7 people (4 on boats, 3 running shuttles).

Task 2. Complete at least 4 young-of-year Gila passes from Mee Canyon to Westwater Wash

YOY Gila will be collected during four overnight trips in late July and August (2026 and 2027) using the methods described in the Interagency Standardized Monitoring Program Handbook (ISMP, USFWS 1987). Larval and YOY fish will be collected with a beach seine (4.6 m in length, 1.5 mm mesh) or a one-man seine (1 m in length, 0.8 mm mesh). Physical data (habitat length and width, depth, temperature, and secchi measurements) will be collected at each collection site.

Each pass requires 2 days, 2 boats, and 6 people (3 on boats, 3 running shuttles).

Deliverables

Compile and summarize data; prepare annual RIP report.

All data will be uploaded into STReAMS by the end of November in 2026, 2027, and 2028.

Complete final report describing population size and structure of humpback chub in Black Rocks 2026-2027 during winter, spring, and summer 2028. Estimates will include numbers of adults (< 200 mm TL) in the population, as well as recruitment by juveniles (150-199 mm TL) and young-of-year class strength. Draft report by April 15, 2028. Final report by July 15, 2028.

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Activity H Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff				
Seas Staff				
Materials				
Equipment				
Travel				
Contracts				
H Total				

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

ACTIVITY I – Monitor fish community in the Gunnison River (Project 163)

Activity Principal Investigator

Darek Elverud, Fish Biologist
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Study Goals

Continue the long-term, multi-life-stage, monitoring program for Colorado pikeminnow and razorback sucker populations in the Gunnison and Colorado rivers whereby population responses can be used to evaluate the effectiveness of implementation of Aspinall re-operation plan.

Study Area

Large-bodied fish sampling will occur on the Gunnison River from Delta, CO (RM 57.2) downstream to the Redlands Diversion Dam near Grand Junction, CO (RM 3.0). Larval and YOY sampling on the Gunnison River will occur from Delta, CO downstream to the Gunnison River confluence with the Colorado River (RM 0.0).

On the Colorado River, large-bodied fish sampling will occur in sub-reaches of the 18-mile reach extending downstream from the Colorado River/Gunnison River confluence (RM 171) to Loma, Colorado (RM 152.6). Larval and YOY sampling will occur from the Colorado River/Gunnison River confluence downstream to the Colorado-Utah line (RM 131.9).

Task Descriptions

Task 1. Complete two electrofishing passes on the Gunnison River and one electrofishing pass on the Colorado River to monitor large-bodied fishes.

The first Gunnison River electrofishing pass will occur early August, and the second Gunnison River electrofishing pass will occur in late September or early October. Each pass requires five days, three

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boats, and five people for sampling. Four additional people are required to shuttle vehicles. The Colorado River electrofishing pass will occur in late September and require one boat and three people. Two additional people are required for vehicle shuttle.

Task 2. Complete five larval fish sampling passes on both the Colorado River and Gunnison River.

Passes will occur beginning in mid-May and conclude in early-August when temperatures are conducive for Colorado pikeminnow and/or razorback sucker spawning. Each pass requires 8 days (four days per river), one boat, and two people. Two additional people are required for vehicle shuttles.

Task 3. Complete one YOY sampling on both the Colorado River and Gunnison River.

Sampling for YOY fishes will occur in mid-September. Each pass requires eight days (four days per river), one boats, and three to four people. Two additional people are required for vehicle shuttles.

Deliverables

Data will be checked for accuracy and uploaded into the STReAMs database by the end of November of each year. An annual report of summarized data and sampling efforts will be submitted to the program coordinator by mid-November for each year. A draft summary report of data collected from 2011 until present will be submitted to the program coordinator by July 15th, 2028. A final summary report will be submitted to the Biology Committee by October 15th, 2028.

Activity I Budget

Spending Type	Year 1 Total to GJ-FWCO	Year 1 Overhead*	Year 2 Total to GJ-FWCO	Year 2 Overhead*
Perm Staff	\$474.54	\$14.24	\$484.03	\$14.52
Seas Staff	\$19,862.28	\$595.87	\$20,259.53	\$607.79
Materials	\$12,948.73	\$388.46	\$13,207.70	\$396.23
Equipment				
Travel	\$1,932.75	\$57.98	\$1,971.41	\$59.14
Contracts				
I Total	\$35,218.30	\$1,056.55	\$35,922.66	\$1,077.68

*Overhead is paid to the USFWS Headquarters and/or Region 6 offices, not GJ-FWCO

SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	U.S.F.W.S. Grand Junction Fish and Wildlife Conservation Office
Project Name:	Grand Junction Fish and Wildlife Conservation Office Implementation of Recovery Activities

	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL	
	10/1/2023		10/1/2024		10/1/2025		10/1/2026		10/1/2027			
	Through	9/30/2024	Through	9/30/2025	Through	9/30/2026	Through	9/30/2027	Through	9/30/2028		
DIRECT LABOR AND FRINGE BENEFIT COSTS:												
Direct Labor - Hourly	\$	651,237.73	\$	794,650.13	\$	831,978.86	\$	848,618.44	\$	752,641.13	\$	3,879,126.29
Fringe Benefits - Hourly	\$	250,960.90	\$	304,634.16	\$	318,945.10	\$	325,324.00	\$	288,704.03	\$	1,488,568.19
Subtotal of Direct Labor & Fringe Benefits:	\$	902,198.63	\$	1,099,284.29	\$	1,150,923.96	\$	1,173,942.44	\$	1,041,345.17	\$	5,367,694.49
OTHER DIRECT COSTS:												
Materials and Supplies	\$	93,412.67	\$	115,099.91	\$	127,704.78	\$	130,258.86	\$	108,715.19	\$	575,191.41
Travel Costs	\$	31,450.97	\$	53,733.62	\$	57,286.52	\$	60,054.99	\$	36,621.88	\$	239,147.98
Equipment	\$	-	\$	46,067.34	\$	54,531.59	\$	25,231.78	\$	43,866.45	\$	169,697.16
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Subtotal of Other Direct Costs:	\$	124,863.64	\$	214,900.87	\$	239,522.88	\$	215,545.63	\$	189,203.53	\$	984,036.55
INDIRECT/OVERHEAD COSTS:												
Subtotal of Labor and Other Direct Costs:	\$	1,027,062.27	\$	1,314,185.16	\$	1,390,446.84	\$	1,389,488.07	\$	1,230,548.70	\$	6,351,731.04
Total dollars exempt from indirect/overhead base:	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
<Enter Description of Indirect/OH Cost #1>	3.00%	\$ 30,811.87	3.00%	\$ 39,425.55	3.00%	\$ 41,713.41	3.00%	\$ 41,684.64	3.00%	\$ 36,916.46	\$	190,551.93
Total dollars exempt from indirect/overhead base:	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
<Enter Description of Indirect/OH Cost #2>	3.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	\$	-
Subtotal of Indirect/Overhead Costs:	\$	30,811.87	\$	39,425.55	\$	41,713.41	\$	41,684.64	\$	36,916.46	\$	190,551.93
GRAND TOTAL:	\$	1,057,874.14	\$	1,353,610.71	\$	1,432,160.25	\$	1,431,172.71	\$	1,267,465.16	\$	6,542,282.97